Řešení cvičení s Gentryho lesními transekty

```
# Nahrejte potřebná data:

f <- file
('http://www.davidzeleny.net/anadat-r/lib/exe/fetch.php?media=data:gentry197.r')
load (f)
gentry.coord <- read.delim
('http://www.davidzeleny.net/anadat-r/lib/exe/fetch.php?media=data:gentry.coord.txt
', row.names = 1)

library (vegan)

# gamma diverzita v rámci lokalit:
gamma <- unlist (lapply (gentry197, ncol))

# průměrná alfa diverzita podploch v rámci lokalit:
mean.alpha  <- unlist (lapply (gentry197, FUN = function (x) mean (specnumber
(x))))

# Whittakerova beta-diverzita
beta.whitt <- 1-(mean.alpha/gamma)

# rarifikovaná gamma diverzita
gentry.sum <- lapply (gentry197, FUN = function (x) as.matrix (colSums (x)))
min (unlist (lapply (gentry.sum, sum)))  # nejmenší počet jedinců na lokalitě

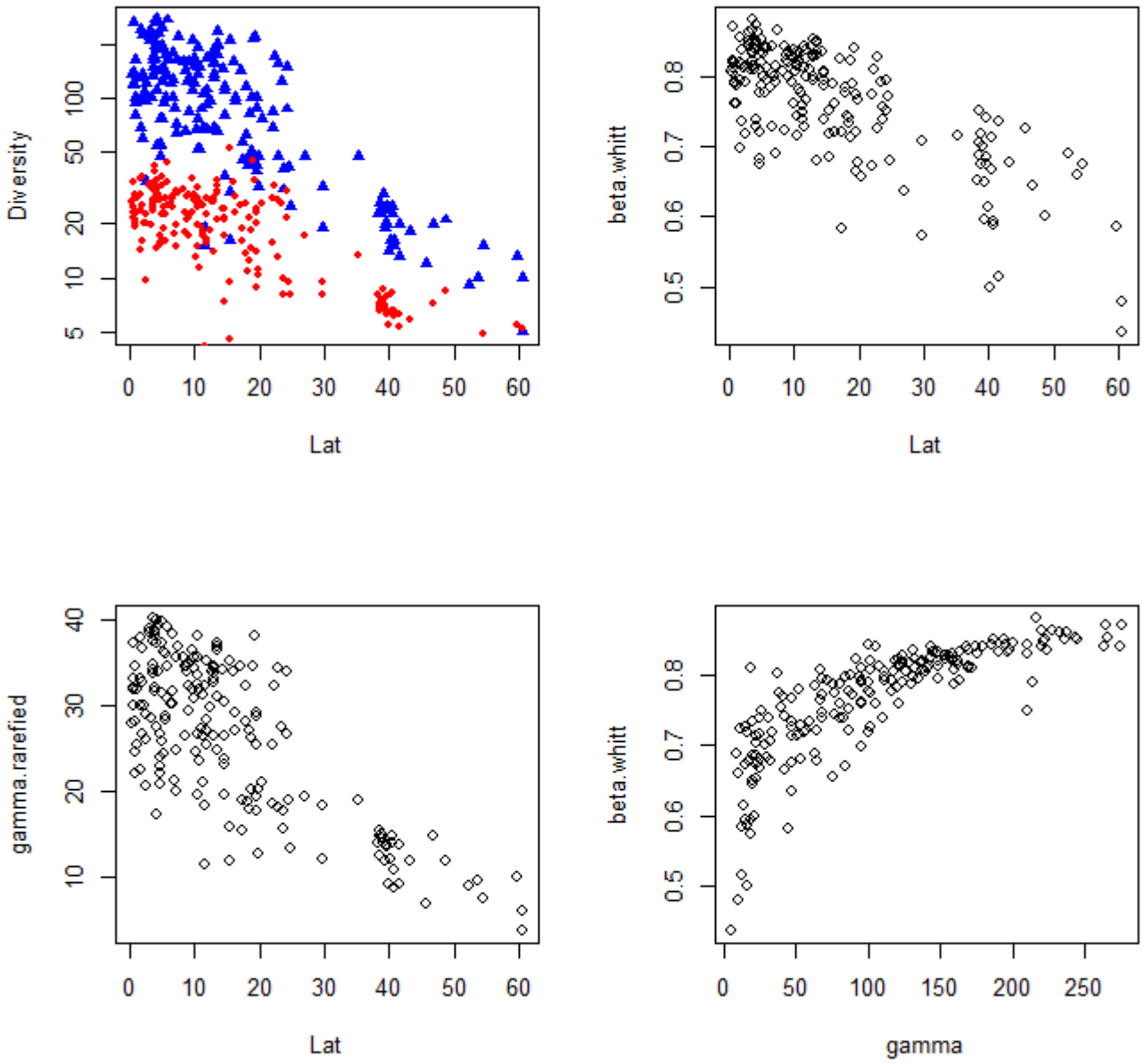
gamma.rarefied <- unlist (lapply (gentry.sum, FUN = function (x) rarefy (t(x),
43)))

par (mfrow = c(2,2))
plot (gamma ~ Lat, gentry.coord, col = 'blue', pch = 17, log = 'y', ylab =
'Diversity')
points (mean.alpha ~ Lat, gentry.coord, col = 'red', pch = 20)

plot (beta.whitt ~ Lat, gentry.coord)

plot (gamma.rarefied ~ Lat, gentry.coord)

plot (beta.whitt ~ gamma)
```



Srovnejte s obrázky Fig. 1 A+B a Fig. 2 B v publikaci Kraft et al. (2011) Science:

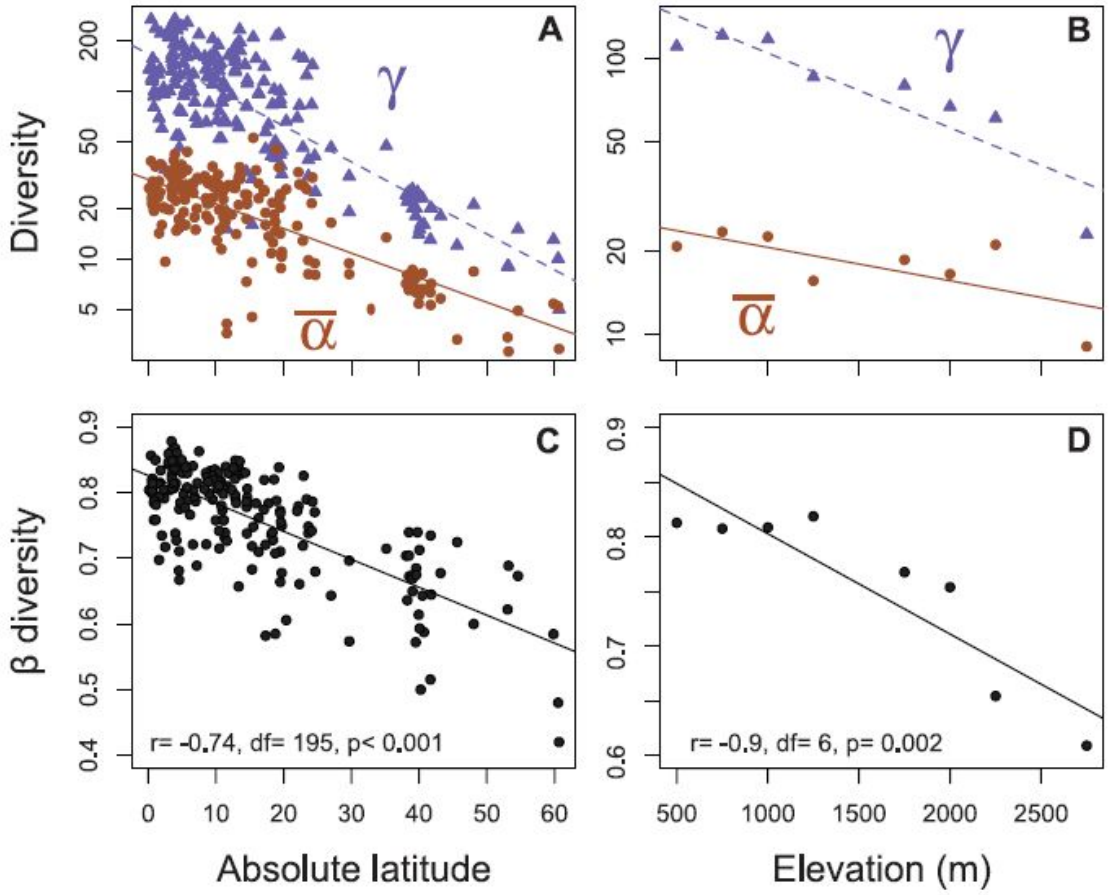


Fig. 1. Latitudinal and elevational trends in mean α and γ diversity for woody plants (**A** and **B**) drive a significant correlation between latitude and β diversity (**C**) and elevation and β diversity (**D**). β diversity is measured as the β partition ($\beta = 1 - \overline{\alpha}/\gamma$).

From:
https://anadat-r.davidzeleny.net/ - **Analysis of community ecology data in R**

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Last update: **2017/10/11 20:36**